



Case Report

Acute haemorrhagic pancreatitis – A case of sudden death

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ABSTRACT

Sudden death in young individuals is relatively uncommon and acute haemorrhagic pancreatitis as a cause of sudden and unexpected death is a rare phenomenon. A case of sudden death due to acute haemorrhagic pancreatitis is reported in a young doctor who ignored the radiating pain of acute pancreatitis for gastritis, and resorted to self-medication. The condition was discovered only at autopsy.

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1. Introduction

Investigation of sudden and unexpected death is a challenge for a forensic pathologist. The definition of sudden death varies according to authority and convention. Sudden death is defined as an unexpected non-violent (natural) phenomenon in which death occurs instantaneously or within 6 h of the onset of symptoms or collapse, in non-hospitalized individuals participating in their regular activities until the final event.¹ The World Health Organization defines sudden death as those occurring within 24 h following onset of symptoms, including all instantaneous deaths, and all deaths occurring within 24 h of an acute collapse. Most of the sudden deaths occur outside the hospital or in emergency rooms, reflecting their unexpected nature.

In deaths that are both sudden and unexpected; non-availability of clinical data and non-existing physical signs, makes the job of the forensic experts tougher. Sudden death following pancreatic involvement is a rare phenomenon. In 1925, Moynihan aptly described the dramatic nature of acute pancreatitis as the most terrible of all calamities that occur in connection with abdominal viscera. The suddenness of its onset and the mortality attended upon it renders it the most formidable of catastrophes.² Review of literature reveals the incidence of acute haemorrhagic pancreatitis without symptoms to be quite low.^{3–5}

In an autopsy study on sudden deaths in acute haemorrhagic pancreatitis, Tong et al. found that most of the victims were healthy young adult males, who were engaged in active work, and all died in their sleep.⁶ A case of sudden death due to acute haemorrhagic pancreatitis is reported in a young doctor who ignored the radiating pain of acute pancreatitis for gastritis, and resorted to self-medication. The condition was discovered only at autopsy.

2. Case report

The deceased, a doctor by profession and pursuing his postgraduate studies in Internal Medicine was on duty in the intensive care unit. He had complained of epigastric pain off and on during the last one week prior to the incident and was on self-medication for gastritis. That night he had a single episode of vomiting at 9 pm, and owing to pain he skipped his dinner. He attended to the patients in the ward till 2 am and later retired to the duty doctors' room. At 4 am when he was called to attend to a patient, he did not respond and was subsequently found dead in his bed. The deceased was a non-alcoholic and did not have any history of drug abuse. There was no suspicion of foul play whatsoever. In view of the unusual nature of his death, a postmortem examination was conducted at the District Wenlock Hospital, Mangalore, to shed light on the cause of death.

The deceased was a young adult male aged 27 years, moderately built and nourished measuring 178 cms in length and

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weighing 72 kgs. No external injuries were present on the body. On internal examination, heart appeared normal and weighed 240 g. Brain was oedematous and weighed 1350 g; left and right lung were oedematous and weighed 500 g and 450 g respectively. The trachea and esophagus were normal. Stomach was empty and the mucosa was congested with patchy erosions. Spleen, liver and both kidneys were congested. Pancreas weighed 110 g and was soft, pulpy, friable and oedematous, with areas of frank haemorrhages. The cut section revealed haemorrhagic infiltration of the interstitial tissue. There was no evidence of gallstones, infection or obstruction of the ducts.

The organs were subjected to histopathological examination. Tissue specimens from pancreas, liver, heart, kidney and brain were fixed in 10% formalin, embedded in paraffin and stained with haematoxylin and eosin for histological studies. Sections of pancreas showed total haemorrhagic necrosis of the pancreatic parenchyma including acini and islets with extension into peripancreatic adipose tissue, which are suggestive of acute haemorrhagic pancreatitis (Fig. 1). Sections from the kidneys showed intense congestion of the glomerular and peritubular capillaries in the cortex and medulla and foci of tubular necrosis in the cortex, which are sug-

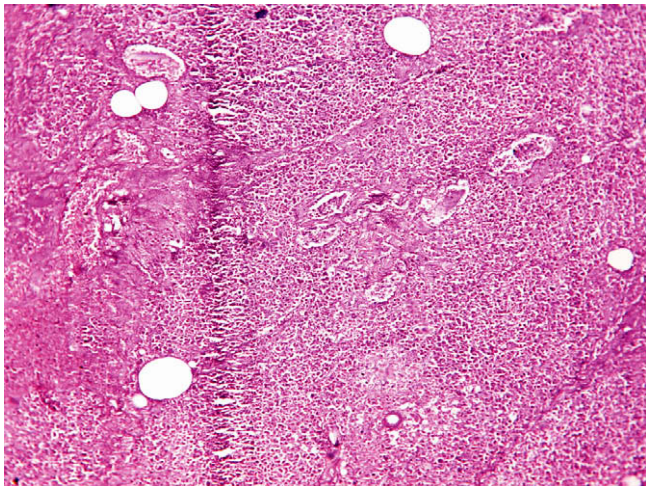


Fig. 1. Section of pancreas showing haemorrhagic necrosis of parenchyma with extension into peripancreatic adipose tissue, haematoxylin and eosin, original magnification $\times 40$.

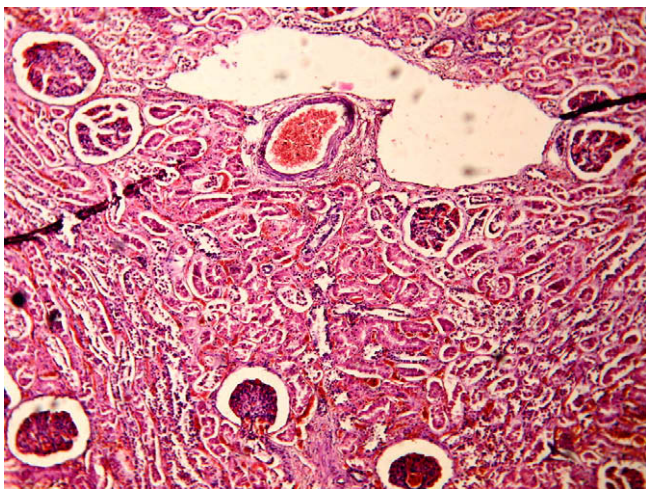


Fig. 2. Section of kidney showing intense congestion of glomerular and peritubular capillaries with foci of tubular necrosis, haematoxylin and eosin, original magnification $\times 40$.

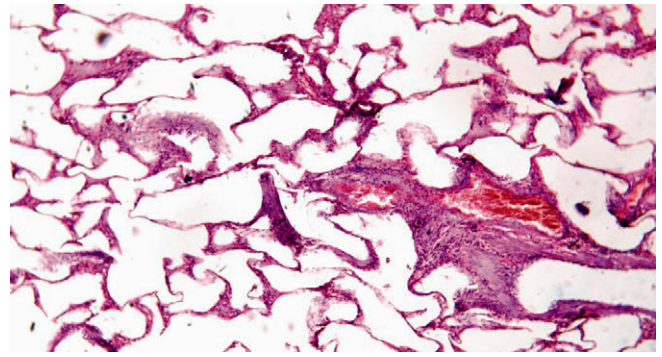


Fig. 3. Section of lung showing widening of alveolar septa with oedema and inflammatory infiltrate, haematoxylin and eosin, original magnification $\times 40$.

gestive of shock kidney (Fig. 2). Sections from the lungs showed diffuse alveolar damage with intense congestion of capillaries, interstitial oedema and haemorrhage, features suggestive of shock lung (Fig. 3). Toxicological screening of blood and viscera at the Regional Forensic Science Laboratory was negative for drugs and poisons. The cause of death was attributed to acute haemorrhagic pancreatitis after a detailed postmortem examination, histological study of tissues, and toxicological analysis.

3. Discussion

Acute pancreatitis is a condition associated with acute and sudden inflammation of the pancreas that may involve the peripancreatic tissue and various organ systems. In majority of patients, acute pancreatitis is a mild disease, usually associated with a rapid recovery within a few days of onset of the illness. Gallstones and excessive alcohol usage are the most common causes for injury to the pancreas and account for more than 85% of all patients that develop pancreatitis.² Hyperlipidemia, hypocalcaemia, many drugs, and blunt trauma to the abdomen have been associated with pancreatitis. The most frequent symptom in acute and recurrent pancreatitis is abdominal pain, followed by vomiting. The major symptom, abdominal pain may vary widely in intensity from the typical sharp incapacitating pain to mild bearable pain with more or less asymptomatic onset. In about 20% of the patients with acute pancreatitis, severe damage to the pancreas may lead to a life threatening illness.⁷ Early deaths are usually due to multisystem organ failure. Inflammatory mediators and cytokines originating from the inflamed pancreas may be responsible for damage to vital organs by mechanisms such as vascular injury, stasis, or enhanced intravascular coagulation. These deaths are usually manifested by irreversible pulmonary oedema and acute renal failure.⁸ In acute pancreatitis, the most common extrapancreatic pathology has been reported in the lung. The prevalence of pulmonary complications in autopsy studies ranges from 20% to 100%, pulmonary oedema being the most common finding.^{4,5,8,9}

The Clinical manifestations of acute pancreatitis are so varied that it should be considered in the differential diagnosis of all cases of upper abdominal pain.¹⁰ Cases of sudden death due to acute pancreatitis have been reported in the past where diagnosis could not be made until autopsy.^{9,11–13} Serum amylase levels, ultrasonography and computed tomography have been recommended for early diagnosis.⁹ Acute pancreatitis is known for its radiating pain. In the present case, the deceased was suffering from acute pancreatitis, and the pain in the epigastric region was mistaken for gastritis. The deceased being a doctor himself resorted to self-medication for gastritis without undertaking investigations. Acute haemorrhagic pancreatitis as a cause of sudden death is unique in its own way owing to its nonspecific symptoms preceding the

catastrophic event. The suddenness of the attack and rapidity of termination of life, without the slightest clinical manifestation by itself is worth emphasizing. Presumably, the pain and collapse in such cases is so great that death followed quickly due to shock or general toxicity.

The case is reported for its rarity. Acute pancreatitis is a serious and life threatening disease and requires intensive and aggressive management of multiple organ failure and severe infective complications that develop in these patients. Hence a high index of suspicion in cases of upper abdominal pain followed by investigations such as serum amylase levels, ultrasonography and computed tomography to confirm the diagnosis will help in preventing this unusual form of sudden death.

Conflict of Interest Statement

None declared.

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Ethical Approval

No ethical approval is needed as it is a short report.

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